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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/751,765

12/29/2000

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900.0020USU

5071

41339 7590 05/02/2007
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EXAMINER

EWART, JAMES D

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

05/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/751,765

Applicant(s)

WIEDEMAN ET AL.

Examiner

James D. Ewart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 28, 2007 amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on March 28, 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed February 28, 2007, have been fully considered by Examiner, but they are not deemed persuasive. Applicant argues that the invention of Steer couldn't be used in a satellite communication system as the Steer reference is primarily concerned with safety and excluding land-based cellular phones from interfering with equipment in places such as hospitals and aircraft. Hospitals and airports, particularly in third world countries, Mobile Army Surgical Hospitals (MASH) units and Vertical Short Take-Off and Landing (VSTOL) aircraft that use mobile runways during wartime, are in remote areas that require satellite communication systems for communication. In addition, Steer does not mention anything regarding his invention to be used exclusively in a land based mobile phone communication system and uses the term mobile radio system throughout his specification. Steer simply states in Column 1, Line 64-Column 2, Line 1 that "the signalling channels may also be used to broadcast (at low power) a message to the mobile handset which prohibits the handset from operation in areas where no level of mobile emissions can be tolerated".

2. Regarding the argument that there is no justification for combining Steer with Martii et al, the Examiner disagrees. Steer states in Column 9, Lines 23-26 that "It is obvious that there will be some uncertainty involved in both the definition of the protected region and the measured location of the mobile". It is well known to use statistics for such uncertainties and to calculate the probability that a measurement made is within confidence interval. The Examiner is simply using the Martii et al reference to show the use of a confidence interval being applied in a mobile

communication system. The Examiner has included other references that use a confidence interval in location determination see Stilp.

3. Regarding the argument that Applicant's invention is novel as it defines a certain shape for the service area, the Examiner disagrees. Describing the shape of a service area is not new in the art and the Examiner equates the restricted area as a service area. Cells of a communication system are often pictured as polygons and other shapes and it is well known that there is overlap between these cells. The Examiner has simply used the Maeda et al reference to show a teaching where the service area is described via the shape of a polygon. Applicant adds that Steer discloses a preferred embodiment of the shape as shown in the figures label 12, the Examiner disagrees. Steer doesn't say anything about a preferred shape and states in Column 9, Lines 23-26 that "It is obvious that there will be some uncertainty involved in both the definition of the protected region and the measured location of the mobile".

4. Regarding Applicant's argument pertaining to claim 10, Applicant argues that Steer does not teach the restriction area comprises at least two points connected points on the surface of the earth and at least point located above the surface of the earth. The Examiner equates the boundaries of the restriction area to be a volume as people do not use their mobile phones on the surface of the earth. In addition, Steel states in Column 5, Lines -3-4 that "The region to be protected is defined generally as a volume of space".

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5. Regarding Applicant's argument of claim 12, that Steel does not teach that the restricted area is dynamic and capable of at least one of movement or shape, the Examiner disagrees. Steer states in Column 5, Lines Although only one protected region 12 is shown, it should be obvious that in any mobile communications network, there may be *more than one such protected region*. The boundaries may be described by means of the standard latitude and longitude measures of the boundaries of the region inside which mobile radio operations are to be restricted. Information on the boundaries of a protected region is broadcast in the region and in the surrounding region. As mentioned, there may be several regions to be protected". The Examiner equates the exclusion zone with the entire coverage area, which includes all of the protected zones of which many may exist or come into existence.

6. Regarding Applicant's argument of claims 13-18 that Ishikawa et al does not teach wherein the value of E is a function of the accuracy of the local oscillator. As Applicant points out in Column 6, Lines 10-20 Ishikawa states "According to another aspect of the present invention, by using the information about measured distances and Doppler shift amounts between the mobile earth station and the non-geostationary satellite, which are measured at different local times, errors in time which are attributable to instability in the position of the mobile earth station and in the accuracy of the clock mounted in the mobile earth station and errors in frequency which result from instability of the frequency oscillator mounted in each mobile earth station can be estimated at the same time." These errors are associated with the local oscillator. The examiner is simply showing that the location of the mobile station is not exact and has error and this combined with the Steer, Martti et al. and Maeda et al. combination

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teaches the cited limitation. It is well known in the art to have the mobile station determine its location or the system determine the location or a combination of both.

Claim Objections

Claim 10 is objected to because of the following informalities: ‘and at least point” is grammatically incorrect and should be something like “and at least one point”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 7, 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steer (U.S. Patent Number 6,643,517) in view of Helm et al. (U.S. Patent No. 6,157,834) in further view of Martti et al. (U.S. Patent No. 6,718,169)

Regarding claims 1, 7, 19-25, Steer teaches a method for operating a mobile communication system having at least one gateway (MSC), at least one user terminal (UT) and a group of base stations comprising steps of: providing a group of base stations and allowing access to the said group of base stations by specifying an exclusion zone and selectively

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providing service to the UT depending on a determined location of the UT relative to the exclusion zone (Column 3 lines 48-60), however, Steer fails to specifically teach the use of a constellation of satellites which provides mobile communication services to a UT. Helm et al teaches the use of a constellation of satellites which provides mobile communication services to a UT (Figure 1). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teaching of Steer with the teaching of Helm et al. of the use of a constellation of satellites which provides mobile communication services to a UT to provide mobile communications in area where terrestrial based cellular systems do not provide coverage. Steer and Helm et al teach the limitations of claims 1,7, 19-25 but do not teach a confidence limit (CL) and the estimated error (E). In the same field of endeavor, Martti et al. discloses a method for determining a confidence limit. In addition Martti et al. discloses the use of (b) a confidence limit and estimated error (which reads on column 1 lines 60-67 and column 2 lines 1-45). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Steer by modifying the a position location system with a confidence limit and estimated error as taught by Martti et al. for the purpose of setting the target value.

8. Claims 2-6, 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steer, Helm et al. and Martti et al. in view of Maeda et al. (U.S. Patent Number 6,352,222).

Regarding claims 2,6,8,9, Steer discloses everything claimed as applied above (see claim 1) however, Steer fails to specifically disclose the use of the exclusion zone comprises at least one of a polygon that defines an area, a volume, or a surface.

In the same field of endeavor, Maeda et al. discloses a satellite, satellite control method and satellite communication system. In addition Maeda et al. discloses the use of a exclusion zone comprises at least one of a polygon that defines an area, a volume, or a surface (which reads on this as to form such a polygon that includes all the service areas, as disclosed in column 10 lines 37-39).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve the Steer, Helm et al. and Martti et al combination by modifying the position location system with the exclusion zone comprises at least one of a polygon that defines an area, a volume or a surface as taught by Maeda et al. for the purpose of setting the initial value for the orbital inclination angle.

Regarding claims 3-5, Steer discloses everything claimed as applied above (see claim 1), in addition Steer discloses a location of the UT (10) is determined by the UT (10), and transmitted to the GW (7) as disclosed in column 4 lines 45-67.

Regarding claim 10, Steer discloses everything claimed as applied above (see Claim 1), in addition Steer discloses the exclusion zone is specified to comprise a surface defined by at least two connected points on the Surface of the earth and at least point located above the surface of the earth as disclosed in column 5 lines 4-15.

Regarding claims 11-12, Steer discloses everything claimed as applied above (see claim 1), in addition Steer discloses boundaries of the exclusion zone are static as disclosed in column 5 lines 4-15.

9. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steer, Helm et al., Martti et al. and Maeda et al. and further in view of Ishikawa et al. (U.S. Patent Number 6,166,687).

Regarding claims 13-18, Steer, Helm et al., Martti et al. and Maeda et al. teach the limitations of claims 1-12, but do not teach the use of the value of E is a function of the accuracy of the UT local oscillator, and where information that specifies the accuracy of the UT local oscillator is stored in the UT.

In the same field of endeavor, Ishikawa et al. discloses a method for determining position of mobile earth station in satellite communication system. In addition Ishikawa et al. discloses the use of the value of E is a function of the accuracy of the UT local oscillator, and where information that specifies the accuracy of the UT local oscillator is stored in the GW (which reads on it is possible to perform high accuracy position determination by estimating and Compensating for the timing error arising from instability in the accuracy of the clock of the mobile earth station and the frequency error resulting from instability of the frequency oscillator of the mobile earth station, as disclosed in column 6 lines 10-20).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve the combination of Steer, Helm et al., Martti et al. and Maeda

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et al. with Ishikawa et al. wherein the use of the value of E is a function of the accuracy of the UT local oscillator, and where information that specifies the accuracy of the UT local oscillator is stored in the UT as taught by Ishikawa et al. for the purpose of determine the estimated position of the mobile earth station relative to its true position.

Allowable Subject Matter

10. Claim 26 is allowed. The reason for allowable subject matter is provided below:

Referring to claim 26, the references cited do not teach a mobile satellite communication system comprising at least one gateway (GW), at least one user terminal (UT), and a constellation of satellites, said GW comprising a controller for controlling operations of said UT and further comprising an interface to at least one of the Public Switched Telephone Network (PSTN) or to the Internet, said GW storing a database containing at least one of a Confidence Polygon, a Confidence Volume, or a Confidence Surface to establish a geometric shape located on the earth, above the earth or in space, or combinations thereof, said GW further storing a static or a variable Confidence Limit (CL) value that is compared to a value of an error (E) in a position location of the UT, said controller acting upon the database and assigned or derived values of CL and E, to determine if a comparison of CL and E, combined with a current position of the UT, yields a certain result according to the operational mode of the GW controller, wherein depending on the operational mode of the GW the result of the comparison affects control of the UT or an external device attached to the UT, whereby the UT is forbidden or allowed to access the mobile satellite system or to make or receive a call, or depending on the

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operational mode of the GW the result of the comparison affects some operational characteristic of the UT to provide an ability to protect a site from UT emissions.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.



James Ewart
April 24, 2007



WILLIAM TROST
SUPERVISORY PATENT EXAMINER
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